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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/261.080 03/02/99 SCHUSTER K Z-98005.5.US

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HM92/0605

EXAMINER

FULLER.R

ART UNIT

PAPER NUMBER

2851

DATE MAILED:

06/05/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/261,080

Applicant(s)
Schuster, et al.

Examiner
Rodney Fuller

Art Unit
2851



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Mar 26, 2001
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 4, 5, and 7-18 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 5, 7-10, and 12-18 is/are rejected.
- 7) ☒ Claim(s) 11 is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirements.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 20) ☐ Other: _____

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DETAILED ACTION

Remarks

In response to applicant's Amendment, dated March 26, 2001; the examiner acknowledges the cancellation claims 3 and 6 and the addition of claims 17 and 18. Claims 1, 2, 4, 5 and 7-18 are pending.

The amendment to claim 10 has addressed the claim objection to claims 10, 13, and 16 set forth in the First Office Action mailed December 20, 2000.

In regards to the 35 U.S.C. 112 rejection of claims 1-9, 11, 12 and 14; the examiner has considered the applicants arguments (page 4, 2nd paragraph of Amendment) and withdraws the rejections set forth in the First Office Action mailed December 20, 2000.

In regards to the 35 U.S.C. 103(a) rejection of claims 1-3, 6, 8 and 9 as being unpatentable over Vernon (US 6,150,060) in view of Szarmes (US 5,590,148), and the 35 U.S.C. 103(a) rejection of claims 4, 5, 7, 11, 12 and 14 as being unpatentable over Vernon (US 6,150,060), Szarmes (US 5,590,148) and Ashida (US 6,153,877); the applicant has supplied a certified copy of the priority application (priority date: March 2, 1998) which is before the filing date of Vernon (US 6,150,060) (filing date: January 11, 1999). Hence, the examiner withdraws the rejections based on Vernon (US 6,150,060) set forth in the First Office Action mailed December 20, 2000.

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In regards to the 35 U.S.C. 102(b) rejection of claim 15 as being anticipated by Hamada, et al. (US 5,693,382); the applicant makes the argument (page 5, 3rd paragraph of Amendment) that the "...pellicle membrane throughout Hamada is taught to be made of plastic." (Underline emphasis is added by applicant). The examiner has considered the applicant's arguments and withdraws the rejection.

Claim Objections

1. Claim 11 is objected to because it is dependent from canceled claim 6. Accordingly, the claim has not been further treated on the merits. Appropriate correction is required.
2. The original claim 14 ("A pellicle (13, 14) of fluoride crystal.") was amended (page 8 of Amendment) to remove the reference "(13, 14)." However, the word "A" has been changed to "The" in the new claim ("The pellicle of fluoride crystal."). This change was not indicated by brackets and underlining of the original claim. It appears that the original wording is more readable, and the change may have been a typographical error.

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Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 13 and 14 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 13 recites the limitation "said flat plate" in line 1. There is insufficient antecedent basis for this limitation in the claim.

6. Claim 14 depends from claim 13 and therefore includes the deficiencies of claim 13.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 2, 8, 9, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito (US 5,866,280) in view of Szarmes (US 5,590,148).

Ito (US 5,866,280) discloses "a reticle with support material of transparent, optically uniaxial crystal" and "a reticle based on MgF₂ support material." (See claim 3) However, Ito (US

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5,866,280) does not specifically disclose wherein “the principal axis of said crystal is substantially perpendicular to the surface of said reticle.” Szarmes (US 5,590,148) discloses (column 16, lines 23-35) that: “In all designs employing uniaxial crystal, the two preferred orientations of the optical c-axis are the ones ...” “in which the c-axis lies in the plane of the crystal, or the c-axis posses a projection onto the plane of incidence which is perpendicular to the surface of the crystal.” Hence, it would have an obvious to one having ordinary skill in the art at the time the invention was made to modify Ito (US 5,866,280) by wherein “the principal axis of said crystal is substantially perpendicular to the surface of said reticle,” since it has been held to be within the general skill of a worker in the art to select a known material, or orientation of material, on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

9. Claims 4, 5, 7, 10-12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito (US 5,866,280) in view of Szarmes (US 5,590,148) as applied to claims 1, 2, 8 and 9 above, and further in view of Ashida (US 6,153,877).

A further difference between modified Ito (US 5,866,280) and the claimed invention is “a cooling device.” However, the use of a “cooling device” in a photolithography system is routine in the art as is evident from the teaching of Ashida (US 6,153,877) (see abstract). Thus it would have been obvious to one of ordinary skill at the time the invention was made to further modify Ito (US 5,866,280) by including a “cooling device.” The ordinary artisan would have been

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motivated to further modify Ito (US 5,866,280) in the manner described above for at least the purpose of improving the pattern position precision by stabilizing the temperature of the reticle as described by Ashida (US 6,153,877) in column 1, lines 29-40.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 15 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Kubota, et al. (US 5,370,951).

Kubota (US 5,370,951) discloses a pellicle made with magnesium fluoride (see column 8, lines 12-33). Hence, Kubota (US 5,370,951) discloses (claim 15) a “pellicle of fluoride crystal,” and (claim 16) wherein the fluoride is “...selected from the group of CaF_2 , BaF_2 , or MgF_2 .

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:


Yan (US 6,197,454) discloses a pellicle to protect a photolithographic mask.

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Scott, et al. (US 5,935,733); Ito (US 5,536,604); Kato, et al. (US 4,735,877); and Kurihara, et al. (US 6,200,711) each discloses a reticle that is composed MgF_2 .

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney Fuller whose telephone number is (703) 306-5641. The examiner can normally be reached on Monday through Friday from 8:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams, can be reached on (703)308-2847.

A handwritten signature in black ink, appearing to read 'David M. Gray', with a stylized, looping flourish extending to the right.

**DAVID M. GRAY
PRIMARY EXAMINER**

REF

May 23, 2001